

Appendix table 7-10

Correct answers to factual knowledge questions in physical and biological sciences, by respondent characteristic: 2010

(Percent)

| Characteristic | Physical science | | | |
|--|---|--|---|---|
| | <i>The center of the Earth is very hot.</i> (True) | <i>The continents on which we live have been moving their locations for millions of years and will continue to move in the future.</i> (True) | <i>Does the Earth go around the Sun, or does the Sun go around the Earth?</i> (Earth around Sun) | <i>How long does it take for the Earth to go around the Sun: one day, one month, or one year?^a</i> (One year) |
| All adults (<i>n</i> = 1,932) | 84 | 80 | 73 | 52 |
| Sex | | | | |
| Male (<i>n</i> = 798) | 87 | 83 | 79 | 61 |
| Female (<i>n</i> = 1,134) | 81 | 77 | 67 | 44 |
| Formal education ^b | | | | |
| <High school (<i>n</i> = 257) | 68 | 63 | 54 | 23 |
| High school graduate (<i>n</i> = 610) | 81 | 75 | 62 | 39 |
| Some college (<i>n</i> = 477) | 87 | 85 | 77 | 59 |
| Baccalaureate (<i>n</i> = 369) | 92 | 88 | 88 | 72 |
| Graduate/professional degree (<i>n</i> = 218) | 90 | 90 | 91 | 76 |
| Science/mathematics education ^c | | | | |
| Low (<i>n</i> = 695) | 81 | 76 | 65 | 40 |
| Middle (<i>n</i> = 272) | 88 | 86 | 77 | 61 |
| High (<i>n</i> = 321) | 94 | 90 | 88 | 78 |
| Family income (quartile) ^b | | | | |
| Top (<i>n</i> = 360) | 90 | 88 | 83 | 63 |
| Second (<i>n</i> = 468) | 90 | 85 | 76 | 60 |
| Third (<i>n</i> = 407) | 84 | 81 | 76 | 50 |
| Bottom (<i>n</i> = 510) | 78 | 72 | 61 | 39 |
| Age (years) ^b | | | | |
| 18–24 (<i>n</i> = 111) | 98 | 85 | 71 | 54 |
| 25–34 (<i>n</i> = 377) | 87 | 81 | 79 | 60 |
| 35–44 (<i>n</i> = 347) | 82 | 75 | 75 | 57 |
| 45–54 (<i>n</i> = 360) | 85 | 85 | 74 | 54 |
| 55–64 (<i>n</i> = 352) | 82 | 79 | 72 | 49 |
| ≥65 (<i>n</i> = 376) | 73 | 76 | 62 | 35 |
| Verbal ability ^d | | | | |
| 0–4 (<i>n</i> = 70) | 75 | 63 | 53 | 31 |
| 5 (<i>n</i> = 46) | 84 | 84 | 65 | 41 |
| 6 (<i>n</i> = 84) | 79 | 81 | 77 | 53 |
| 7 (<i>n</i> = 46) | 85 | 79 | 76 | 58 |
| 8–10 (<i>n</i> = 81) | 95 | 88 | 90 | 72 |
| Trend factual knowledge of science scale (quartile) ^e | | | | |
| Top (<i>n</i> = 505) | 98 | 96 | 100 | 97 |
| Second (<i>n</i> = 550) | 94 | 91 | 91 | 67 |
| Third (<i>n</i> = 469) | 83 | 78 | 63 | 28 |
| Bottom (<i>n</i> = 408) | 52 | 45 | 24 | 5 |

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Correct answers to factual knowledge questions in physical and biological sciences, by respondent characteristic: 2010

(Percent)

| Characteristic | Physical science (continued) | | | |
|--|--|--|--|--|
| | <i>All radioactivity is man-made.</i> (False) | <i>Electrons are smaller than atoms.</i> (True) | <i>Lasers work by focusing sound waves.</i> (False) | <i>The universe began with a huge explosion.</i> (True) |
| All adults (<i>n</i> = 1,932) | 67 | 51 | 47 | 38 |
| Sex | | | | |
| Male (<i>n</i> = 798) | 72 | 58 | 63 | 46 |
| Female (<i>n</i> = 1,134) | 63 | 46 | 35 | 32 |
| Formal education ^b | | | | |
| <High school (<i>n</i> = 257) | 39 | 32 | 31 | 26 |
| High school graduate (<i>n</i> = 610) | 60 | 41 | 38 | 31 |
| Some college (<i>n</i> = 477) | 74 | 56 | 46 | 40 |
| Baccalaureate (<i>n</i> = 369) | 80 | 69 | 66 | 49 |
| Graduate/professional degree (<i>n</i> = 218) | 88 | 68 | 69 | 53 |
| Science/mathematics education ^c | | | | |
| Low (<i>n</i> = 695) | 58 | 39 | 36 | 33 |
| Middle (<i>n</i> = 272) | 71 | 64 | 46 | 42 |
| High (<i>n</i> = 321) | 91 | 80 | 75 | 53 |
| Family income (quartile) ^b | | | | |
| Top (<i>n</i> = 360) | 78 | 57 | 60 | 46 |
| Second (<i>n</i> = 468) | 73 | 56 | 53 | 45 |
| Third (<i>n</i> = 407) | 70 | 49 | 47 | 36 |
| Bottom (<i>n</i> = 510) | 54 | 50 | 38 | 32 |
| Age (years) ^b | | | | |
| 18–24 (<i>n</i> = 111) | 64 | 65 | 46 | 44 |
| 25–34 (<i>n</i> = 377) | 64 | 61 | 52 | 40 |
| 35–44 (<i>n</i> = 347) | 67 | 47 | 49 | 34 |
| 45–54 (<i>n</i> = 360) | 69 | 51 | 49 | 37 |
| 55–64 (<i>n</i> = 352) | 71 | 48 | 52 | 41 |
| ≥65 (<i>n</i> = 376) | 66 | 40 | 32 | 35 |
| Verbal ability ^d | | | | |
| 0–4 (<i>n</i> = 70) | 45 | 41 | 33 | 28 |
| 5 (<i>n</i> = 46) | 64 | 43 | 33 | 35 |
| 6 (<i>n</i> = 84) | 68 | 51 | 48 | 36 |
| 7 (<i>n</i> = 46) | 72 | 54 | 44 | 35 |
| 8–10 (<i>n</i> = 81) | 88 | 66 | 61 | 48 |
| Trend factual knowledge of science scale (quartile) ^e | | | | |
| Top (<i>n</i> = 505) | 97 | 92 | 90 | 55 |
| Second (<i>n</i> = 550) | 79 | 54 | 55 | 46 |
| Third (<i>n</i> = 469) | 55 | 37 | 25 | 30 |
| Bottom (<i>n</i> = 408) | 28 | 16 | 11 | 16 |

Appendix table 7-10

Correct answers to factual knowledge questions in physical and biological sciences, by respondent characteristic: 2010

(Percent)

| Characteristic | Biological science | | |
|--|--|---|--|
| | <i>It is the father's gene that decides whether the baby is a boy or a girl.</i> (True) | <i>Antibiotics kill viruses as well as bacteria.</i> (False) | <i>Human beings, as we know them today, developed from earlier species of animals.</i> (True) |
| All adults (<i>n</i> = 1,932) | 61 | 50 | 47 |
| Sex | | | |
| Male (<i>n</i> = 798) | 52 | 48 | 54 |
| Female (<i>n</i> = 1,134) | 68 | 52 | 40 |
| Formal education ^b | | | |
| <High school (<i>n</i> = 257) | 47 | 24 | 41 |
| High school graduate (<i>n</i> = 610) | 55 | 37 | 35 |
| Some college (<i>n</i> = 477) | 61 | 55 | 51 |
| Baccalaureate (<i>n</i> = 369) | 75 | 75 | 57 |
| Graduate/professional degree (<i>n</i> = 218) | 72 | 74 | 61 |
| Science/mathematics education ^c | | | |
| Low (<i>n</i> = 695) | 55 | 40 | 41 |
| Middle (<i>n</i> = 272) | 64 | 58 | 53 |
| High (<i>n</i> = 321) | 75 | 75 | 64 |
| Family income (quartile) ^b | | | |
| Top (<i>n</i> = 360) | 69 | 65 | 57 |
| Second (<i>n</i> = 468) | 66 | 59 | 45 |
| Third (<i>n</i> = 407) | 59 | 48 | 45 |
| Bottom (<i>n</i> = 510) | 55 | 34 | 46 |
| Age (years) ^b | | | |
| 18–24 (<i>n</i> = 111) | 52 | 43 | 55 |
| 25–34 (<i>n</i> = 377) | 68 | 50 | 53 |
| 35–44 (<i>n</i> = 347) | 63 | 48 | 48 |
| 45–54 (<i>n</i> = 360) | 67 | 56 | 41 |
| 55–64 (<i>n</i> = 352) | 59 | 56 | 46 |
| ≥65 (<i>n</i> = 376) | 51 | 47 | 40 |
| Verbal ability ^d | | | |
| 0–4 (<i>n</i> = 70) | 43 | 25 | 42 |
| 5 (<i>n</i> = 46) | 49 | 35 | 43 |
| 6 (<i>n</i> = 84) | 66 | 46 | 47 |
| 7 (<i>n</i> = 46) | 74 | 61 | 40 |
| 8–10 (<i>n</i> = 81) | 78 | 79 | 58 |
| Trend factual knowledge of science scale (quartile) ^e | | | |
| Top (<i>n</i> = 505) | 86 | 89 | 62 |
| Second (<i>n</i> = 550) | 66 | 59 | 49 |
| Third (<i>n</i> = 469) | 55 | 31 | 44 |
| Bottom (<i>n</i> = 408) | 30 | 14 | 28 |

^aQuestion asked only of survey respondents who answered correctly that the Earth goes around the Sun. Individuals who responded incorrectly that the Sun goes around the Earth also count as having responded incorrectly to question on length of the Earth's revolution around the Sun.

^bCategories do not add to total *n* because "don't know" and "refused" responses not shown.

^cLow = ≤5 high school and college science/math courses; middle = 6–8 courses; high = ≥9 courses. Question asked of 1,454 survey respondents; categories do not add to total *n* because "don't know" and "refused" responses not shown.

^dMeasure based on correct responses to a 10-item, multiple-choice test of vocabulary knowledge, completed by 327 survey respondents. Categories represent number of correct responses.

^eSee notes to appendix table 7-8 for explanation of trend factual knowledge of science scale.

NOTE: "Don't know" responses and refusals to respond count as incorrect.

SOURCE: University of Chicago, National Opinion Research Center, General Social Survey (2010).